

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 14 FEB 2006

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Applicant's or agent's file reference 79597 OC/No	<b>FOR FURTHER ACTION</b>		See Form PCT/IPEA/416
International application No. PCT/DK2004/000655	International filing date (day/month/year) 28.09.2004	Priority date (day/month/year) 29.09.2003	
International Patent Classification (IPC) or national classification and IPC F41H5/04, C04B38/00			
Applicant DEMEX R DGIVEN DE INGENI RER A/S ET AL.			

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 7 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
  - a.  sent to the applicant and to the International Bureau a total of 3 sheets, as follows:
    - sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
    - sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
  - b.  (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)), containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

Date of submission of the demand  22.06.2005	Date of completion of this report  10.02.2006
Name and mailing address of the international preliminary examining authority:   European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer  Lostetter, Y  Telephone No. +31 70 340-1098



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**INTERNATIONAL PRELIMINARY REPORT  
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International application No.  
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**Box No. I Basis of the report**

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
  - This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
    - international search (under Rules 12.3 and 23.1(b))
    - publication of the international application (under Rule 12.4)
    - international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

**Description, Pages**

- |      |  |
|------|--|
| 1, 4 | as originally filed                              |
| 2, 3 | received on 22.06.2005 with letter of 21.06.2005 |

**Claims, Numbers**

- |     |  |
|-----|--|
| 1-7 | received on 22.06.2005 with letter of 21.06.2005 |
|-----|--|

**Drawings, Sheets**

- |     |                     |
|-----|---------------------|
| 1/1 | as originally filed |
|-----|---------------------|

- a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3.  The amendments have resulted in the cancellation of:
  - the description, pages
  - the claims, Nos.
  - the drawings, sheets/figs
  - the sequence listing (*specify*):
  - any table(s) related to sequence listing (*specify*):
4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
  - the description, pages 2,3
  - the claims, Nos. 1-7
  - the drawings, sheets/figs
  - the sequence listing (*specify*):
  - any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

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## Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:
  - the entire international application,
  - claims Nos. 1(in part),5  
because:
    - the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):
    - the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 1(in part),5 are so unclear that no meaningful opinion could be formed (*specify*):  
**see separate sheet**
    - the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
    - no international search report has been established for the said claims Nos.
    - the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form	<input type="checkbox"/> has not been furnished
	<input type="checkbox"/> does not comply with the standard
the computer readable form	<input type="checkbox"/> has not been furnished
	<input type="checkbox"/> does not comply with the standard
- the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.
- See separate sheet for further details

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes:	Claims	1(in part)-4,6,7
	No:	Claims	
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1(in part)-4,6,7
Industrial applicability (IA)	Yes:	Claims	1(in part)-4,6,7
	No:	Claims	

**2. Citations and explanations (Rule 70.7):**

**see separate sheet**

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**Re Item I**

**Basis of the report**

The amendments filed with the letter dated 21.06.05 introduce subject-matter which extends beyond the content of the application as filed, contrary to Article 34(2)(b) PCT. The amendments concerned are the following:

- on page 2, line 5, the addition of "each of the particles having";
- on page 3, line 1, the addition of "The particles of";
- in claim 1, the addition of "each of the particles having".

A consequence of these amendments is that each of the particles of the ceramic material now presents a porosity defined by the parameter of the pore diameter. In the application as filed however, it was never mentioned that the particles presented a porosity, but that the ceramic material consisting of the individual particles presented a porosity (see for example page 2, lines 3-6 or claim 1 of the application as filed). The porosity originally disclosed was therefore referring to the voids between the particles of the ceramic material, not to voids inside the particles themselves.

This International Preliminary Examination Report is established as if the amendments filed with the letter dated 21.06.05 had not been made (Rule 70.2(c) PCT). The basis of this report is therefore the application as filed. Consequently, all the objections raised in the Written Opinion of the International Searching Authority remain valid and are hereafter repeated.

**Re Item III**

**Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

Claims 1 and 5 as originally filed relate to an assembly for protection against an explosion defined by reference to the following parameter: the "physical extent" of the ceramic material included in the assembly.

The term "physical extent" has no well-recognised meaning and leaves the reader in doubt

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as to the meaning of the technical feature to which it refers. The use of this parameter in the present context is therefore considered to lead to a lack of clarity within the meaning of Article 6 PCT. It is impossible to compare the parameter the applicant has chosen to employ with what is set out in the prior art. The lack of clarity is such as to render a meaningful complete opinion impossible. Consequently, this report has been restricted to:

- the subject-matter of claim 1 as originally filed, without the feature "a physical extent in the range of approximately 5 to 10 mm"; and
- the subject-matter of claims 2-4, 6 and 7 as originally filed.

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Reference is made to the following documents:

D1: FR-A-2827375  
D2: WO-A-00/62007  
D3: US-A-4415632

2. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 does not involve an inventive step in the sense of Article 33(3) PCT.

- 2.1. The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and discloses (cf. page 4, line 22 - page 9, line 15; figures 1-3; the references in parentheses applying to this document):

an assembly for protection against an explosion, said assembly including a substantially plate-shaped multi-ply element formed by two outer walls (13, 19) and at least one intermediate layer (B, 11) of a particle-shaped material, whereby at least one layer of a particle-shaped material is a ceramic material.

- 2.2. The subject-matter of claim 1 therefore differs from this known assembly in that the

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ceramic material presents a density in the range of approximately 0,3 to 2,5 g/cm<sup>3</sup> and a pore diameter in the range of approximately 20 to 120 µ.

- 2.3. The problem to be solved by the present invention may therefore be regarded as providing an assembly with an improved protection against an explosion.
- 2.4. The solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons.  
The claimed invention resides in the choice of particular parameters from a limited range of possibilities and it is clear that these parameters were encompassed by the prior art (cf. page 7, line 16 - page 8, line 12 of Document D2 which discloses an armour consisting of a ceramic having a density of 2,35 g/cm<sup>3</sup> and column 2, lines 28-37 of Document D3 which discloses an armour consisting of a ceramic having a pore diameter in the range of 1 to 500 µ) and could be arrived at by routine trial and error (see also the PCT International Search and Preliminary Examination Guidelines Chapter 13.14(e)(ii)).
3. Dependent claims 2-4, 6, 7 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step, see documents D1-D3 and the corresponding passages cited in the search report.